DOCUMENT RESUME

ED 102 766 EC 071 420

AUTHOR	Durkee, Frank M.
TITLE	Special Education Teacher Demand and Supply for Elementary and Secondary Schools in Pennsylvania.
INSTITUTION	Pennsylvania State Dept. of Education, Harrisburg. Bureau of Information Systems.
PUB DATE	74
NOTE	46p.
EDRS PRICE	MF-$0.76 HC-$1.95 PLUS POSTAGE
DESCRIPTORS	Demography; Exceptional Child Education; *Handicapped Children; Incidence; *Special Education Teachers; *State Surveys; *Statistical Data; Teacher Certification; Teacher Characteristics; *Teacher Supply and Demand
IDENTIFIERS	*Pennsylvania

ABSTRACT

Reported is a study of special education teacher supply and demand trends at the elementary and secondary levels for Pennsylvania. The supply and demand model of the study is explained including components such as entry rate of graduates and annual withdrawal of teachers. Twenty-six tables provide statistics on topics such as: number of special education pupils being served by Pennsylvania schools, number of special education teachers, prevalency rates by handicapping condition, average number of pupils per teacher by special education categories, hiring demand for special education teachers, age range of special education teachers by category, special education teacher supply from Pennsylvania teacher preparing institutions, teacher withdrawal rates, and projected hiring demand for special education teachers by category to 1983. Among findings of the study given are that: (1) Pennsylvania currently produces about twice as many special education teachers annually as the public schools can hire with the surplus expected to increase until 1980; (2) about 2,000 teachers are working in special education assignments without full certification (particularly in the gifted area); and (3) the proportion of women in special education is greater than in regular teaching. Appended is a table of resident live births in Pennsylvania from 1916 to 1973 with projections to 1978. (DB)

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Special Education Teacher Demand and Supply for Elementary and Secondary Schools in Pennsylvania

EC 071 420

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Pennsylvania Department of Education
1974

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SUMMARY

Pennsylvania produces about twice as many special education teachers annually as the public schools can hire, making the oversupply relatively as great now as that of regular classroom teachers. Hiring demand for special education teachers increased from 853 in 1971-72 to 1,365 in 1973-74, but the college output of special education graduates increased from 967 in 1970 to 2,159 in 1974. The supply of special education teachers is projected to peak at 2,856 in 1976-77 and then drop annually to 2,468 in 1982-83. Of course, planning by educators and by students could obviate these projections.

The annual surplus of special education teachers is projected to increase from 1,371 in 1974-75 to 2,261 in 1979-80 and then decline to 2,135 in 1982-83 (Table 25). This annual excess supply is reduced to some extent by the number of graduates who get jobs in other states; out-of-state hiring is projected to average more than 300 annually. Whether Commonwealth schools hire this number of out-of-state teachers is unknown. Hiring of special education graduates by institutions other than Commonwealth schools could also reduce the projected oversupply, but it is doubtful that it would be the 20 per cent rate experienced by a state college placement service in 1973 (Table 12). On the other hand, the projected excess supply of special education teacher graduates may be aggravated by the annual return to teaching by some of the 3,100 certificated special education teachers not presently teaching.

This study indicates the high probability that about 2,000 teachers are working in special education assignments without full certification. In the gifted or mentally advanced category, for example, the computer print-out showed only eight teachers with this specific certification, although 452 teachers were working in this area in 1972-73 and an estimated 900 in 1973-74.

This study sets forth a basic methodology for continued examination of special education teacher manpower supply and demand relationships. With each year of actual data, projections can become increasingly more accurate and hence more useful in educational decision-making.

The section, Some Findings of the Study, gives the reader a summary of facts on special education teacher manpower. The whole report can give an indepth understanding of the variables at work in the area of special education teacher manpower in the Commonwealth.

BACKGROUND OF THE STUDY

A survey of the special education teacher-preparing higher education institutions in Pennsylvania indicated that the production of special education teachers increased by 123 per cent, 1970-74, and is projected to increase an additional 32 per cent during 1975-77.

Meanwhile, the number of live births in the Commonwealth has declined every year since 1957, except in 1970, producing a declining public school population. It is estimated that the public school population will drop by 500,000 from 1973-74 to 1982-83 (Table 5 and Table 6).

As the teacher surplus reached a peak of 12,363 in 1972-73 in Pennsylvania, a greater proportion of education graduates prepared for special education. In fact, the proportion of special education graduates increased from 5.3 per cent in 1969-70 to 11.1 per cent in 1973-74; it is projected to increase to 13.6 per cent in 1976-77 (Table 21).

Recognizing that a surplus of special education teachers seemed to be developing in the Commonwealth, William Ohrtman, chief of the Division of Special Education and Jeffrey Grotsky, adviser for professional development, asked the Division of Research to make this study.

SOME METHODOLOGY OF THE STUDY

Accordingly, a manpower supply/demand model for special education teachers in the Commonwealth was developed (Figure 1).

Supply Model

The supply model conceives of special education teachers as primarily a part of the output of the teacher-preparing institutions. The entry rate of special education graduates into the public schools is not really known. One state college's survey of class of 1973, however, showed a public school entry rate of about 70 per cent (Table 12).

Little is known about returnees to special education teaching. On the basis of the difference between total teachers hired by public schools and reported new graduates hired for 1972-73 and 1973-74, the number of returnees was estimated in Table 24. However, the number appears to be relatively insignificant when it is compared to the total supply of special education teachers.

Transfers from regular teaching to special education may be a source of supply, but no data on this variable were available for this study.

While this study provides estimates on the out-migration of special education graduates (Table 24), it was unable to obtain data on in-migration, and, therefore, assumed a balance in the migration variable.

Demand Model

With special education enrollment increasing about 50,000 from 1969-70 to 1973-74, the demand for special education teachers increased. The Pennsylvania Association for Retarded Children court decision of October 7, 1971, also increased emphasis on special education.

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Figure I

Manpower Supply/Demand Model for Special Education Teachers in Pennsylvania

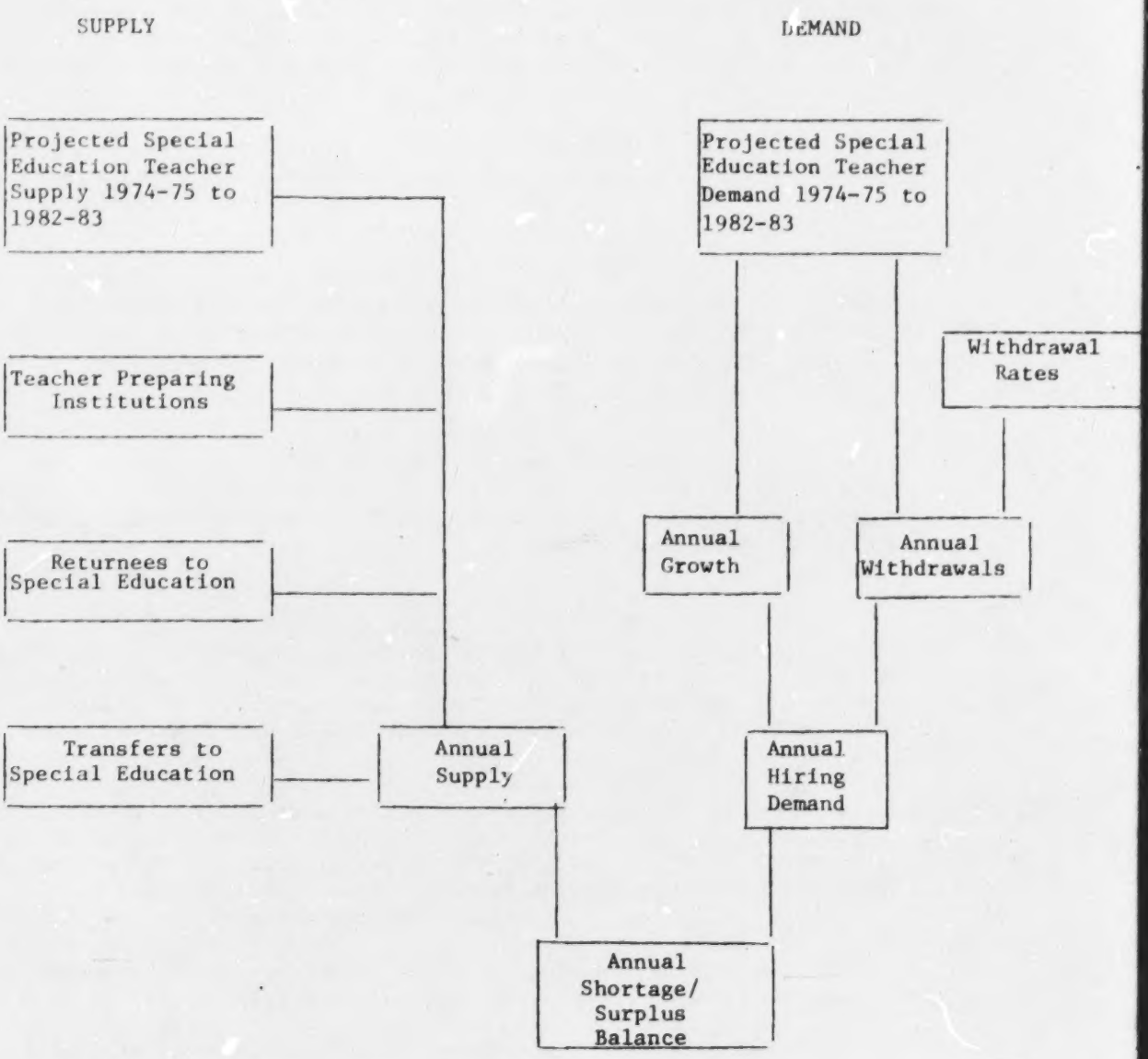
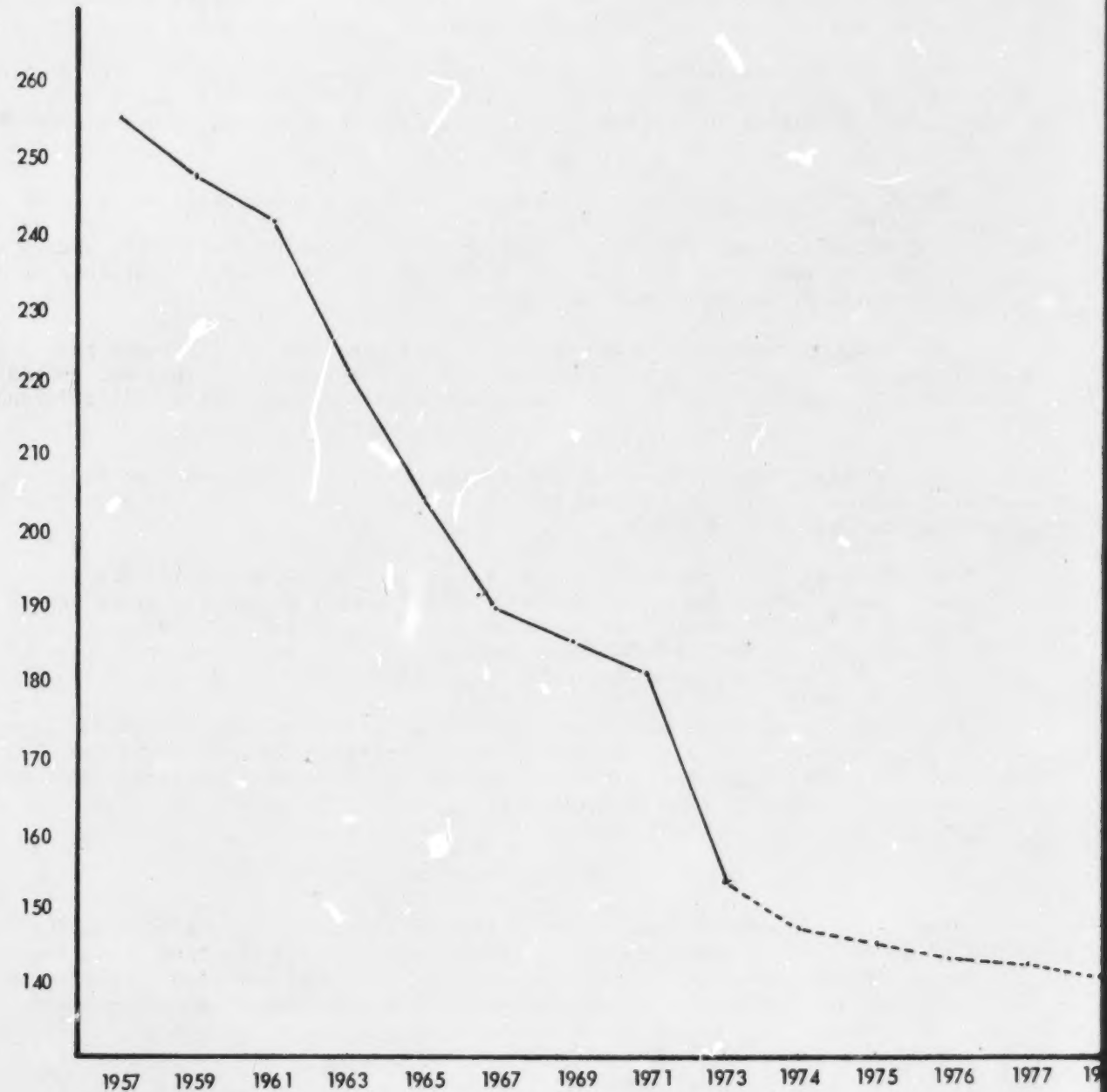


FIGURE 2

TREND OF PENNSYLVANIA RESIDENT LIVE BIRTHS: ACTUAL, 1957-73 AND PROJECTIONS, 1974-78 (IN THOUSANDS)



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Annual growth in public school enrollment peaked in 1973-74 and is projected to decline at least through 1982-83. The downward trend of live births in the Commonwealth is producing a downward trend in the demand for teachers for both regular and special education.

In the model, base data for 1972-73 and 1973-74 provided pupil prevalence rates (the percentage in the public school population) for each special education category. These rates were used to project special education enrollment. Teacher-pupil ratios, established from the 1972-73 and 1973-74 data were then applied to projected special education enrollment in each category to project the total demand for special education teachers (Table 8 and Table 9).

The live-birth trend line is shown in Figure 2 (see Appendix A). The decline in births from 254,997 in 1957 to 153,272 in 1973 has had a decided impact on both public school enrollment and demand for teachers, including special education teachers.

Annual withdrawal of teachers, shown in the demand model, includes all the variables shown in Table 23. A composite of the rates for 1972-73 and 1973-74 was adjusted to eliminate administrators, supervisors and substitute teachers; and a special education teacher-withdrawal rate of .08135 was developed. Separate data on special education teachers were inadequate.

The basic assumption in this process is that the rate of withdrawal by special education teachers approximates that of regular teachers. This was generally confirmed by the actual total special education teacher withdrawals for 1972-73 and 1973-74.

Annual hiring demand, shown in the demand model, was provided from data collected on DEAS-409 for 1972-73 and 1973-74 and was then projected by combining growth and withdrawal.

In this model the annual shortage, surplus or balance of special education teachers is derived from the relationship of annual supply to annual hiring demand in the public schools. Demand from other states, shown in Table 25, was not included because no data were available on in-migration of special education teachers. Demand from other sources, shown in Table 12 was also not included.

Data for the supply/demand model for special education teachers were obtained from Commonwealth data reimbursement forms, DEBE-398 and DEBE-813, and the teacher-hiring form, DEAS-409. Data were collected also from Commonwealth teacher-preparing institutions on form DEAS-21060T.

DEMAND FOR SPECIAL EDUCATION TEACHERS

The data base, consisting of actual figures for 1972-73 and estimates for 1973-74, may be limited but it is more relevant than data for previous years because of dramatic changes in special education since the 1971 PARC decision. More actual data will increase the accuracy of future projections of special education teacher supply and demand.

Pupils Enrollment in Special Education

From the total public school population come all special education pupils. If this population grows or declines, so does the special education population.

Table 1

Special Education Pupils in School Districts and Intermediate Units in Pennsylvania 1972-73

Category	School District		Intermediate		Total			Per Cent		Per Cent in Category
	Elem.	Sec.	Elem.	Sec.	Elem.	Sec.	Total	Elem.	Sec.	
Brain Injured	1,001	220	3,938	403	4,939	623	5,562	88.8	11.2	3.2
Detention Homes	0	0	170	1,951	170	1,951	2,121	8.0	92.0	1.2
Diagnostic and Clinical Services	0	0	3,787	2,261	3,787	2,261	6,048	62.6	37.4	3.4
Hearing Impaired	330	166	1,836	461	2,166	627	2,793	77.6	22.4	1.6
Mentally Advanced (Gifted)	1,646	3,914	5,161	846	6,807	4,760	11,567	58.8	41.2	6.6
MR Educable	15,377	18,526	4,782	6,614	20,159	25,140	45,299	44.5	55.5	25.8
MR Trainable	2,345	732	3,229	1,709	5,574	2,441	8,015	69.5	30.5	4.6
MR Severe/Profound	117	39	759	117	876	156	1,032	84.9	15.1	0.6
Physically Handicapped	990	475	766	261	1,756	736	2,492	70.5	29.5	1.4
Socially & Emotionally Handicapped	883	603	1,247	619	2,130	1,222	3,352	63.5	36.5	1.9
Speech/Language Impaired	18,629	2,479	57,013	4,695	75,642	7,174	82,816	91.3	8.7	47.1
Visually Impaired	322	417	1,170	435	1,492	852	2,344	63.7	36.3	1.3
Other	270	2,116	0	0	270	2,116	2,386	11.3	88.7	1.4
TOTAL	41,910	29,687	83,858	20,372	125,768	50,059	175,827	71.5	28.5	

Source: DEBE-398 and DEBE-813, end of 1972-73 school year.

Table 2

Special Education Pupils in School Districts and Intermediate Units in Pennsylvania 1973-74

Category	School District		Intermediate		Total			Per Cent		Per Cent in
	Elem.	Sec.	Elem.	Sec.	Elem.	Sec.	Total	Elem.	Sec.	Category
Brain Injured	2,301	508	5,853	953	8,154	1,461	9,615	84.8	15.2	4.7
Detention Homes	0	0	168	3,189	168	3,189	3,357	5.0	95.0	1.6
Diagnostic and Clinical Services	0	0	5,564	3,262	5,564	3,262	8,826	63.0	37.0	4.2
Hearing Impaired	129	49	2,670	825	2,799	874	3,673	76.2	23.8	1.7
Mentally Advanced	2,227	2,207	9,871	3,839	12,098	6,046	18,144	66.7	33.3	8.6
MR Educable	8,978	14,400	9,984	12,058	18,962	26,458	45,420	41.7	58.3	21.6
MR Trainable	937	382	5,484	2,616	6,421	2,998	9,419	68.2	31.8	4.5
MR Severe/Profound	65	10	1,575	2,427	1,640	2,437	4,077	40.2	59.8	1.9
Physically Handicapped	390	208	2,030	977	2,420	1,185	3,605	67.1	32.9	1.7
Socially & Emotionally Handicapped	611	537	2,294	1,440	2,905	1,977	4,882	59.5	40.5	2.3
Speech/Language Impaired	14,709	1,454	72,921	8,997	87,630	10,451	98,081	89.3	10.7	46.6
Visually Impaired	106	78	1,666	921	1,772	999	2,771	63.9	36.1	1.3
Other	699	1,541	0	0	699	1,541	2,240	31.2	68.8	1.1
TOTAL	31,152	21,374	120,080	41,504	151,232	62,878	214,110	73.0	27.0	

Source: DEBE-398 and DEBE-813, estimated for 1973-74 school year.

Table 3

Special Education Teachers in School Districts and Intermediate Units in Pennsylvania 1972-73[1]

Category	School District		Intermediate		Total			Per Cent[2]		Per Cent in Category[3]
	Elem.	Sec.	Elem.	Sec.	Elem.	Sec.	Total	Elem.	Sec.	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Brain Injured	102	14	422	30	524	44	568	92.3	7.7	7.0
Detention Homes	-	-	7	59	7	59	66	10.2	89.8	0.8
Diagnostic and Clinical Services	-	-	-	-	-	-	-	-	-	-
Hearing Impaired	39	24	164	47	203	71	274	74.1	25.9	3.4
Mentally Advanced (Gifted)	68	270	101	16	169	283	452	37.4	62.6	5.6
MR Educable	1,056	1,108	674	712	1,730	1,820	3,550	48.7	51.3	43.8
MR Trainable	230	56	435	157	665	213	878	75.7	24.3	10.8
MR Severe/Profound	10	50	81	56	91	106	197	46.2	53.8	2.4
Physically Handicapped	87	43	131	63	218	106	324	67.3	32.7	4.0
Socially & Emotionally Handicapped	113	56	215	90	328	146	474	69.2	30.8	5.9
Speech Correction	172	71	717	82	889	156	1,045	85.1	14.9	12.9
Visually Impaired	27	18	89	37	116	55	171	67.8	32.2	2.1
Other	16	104	-	-	16	104	120	13.3	86.7	1.5
TOTAL	1,920	1,814	3,036	1,349	4,956	3,163	8,119	61.4	38.9	

[1]Source: DEBE-398 and DEBE-813, end of 1972-73 school year.

[2]Column (8) and Column (9) show relationship of Column (5) and Column (6) to Column (7).

[3]Column (10) shows percentage of total of all special education teachers in each category.

Table 4

Special Education Teachers in School Districts and Intermediate Units in Pennsylvania 1973-74[1]

Category	School District		Intermediate		Total			Per Cent[2]		Per Cent in Category[3]
	Elem.	Sec.	Elem.	Sec.	Elem.	Sec.	Total	Elem.	Sec.	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Brain Injured	211	37	599	83	810	120	930	87.1	12.9	8.9
Detention Homes	-	-	4	51	4	51	55	7.3	92.7	0.5
Diagnostic and Clinical Services	-	-	-	-	-	-	-	-	-	-
Hearing Impaired	43	25	222	56	265	81	346	76.6	23.4	3.3
Mentally Advanced (Gifted)	159	376	222	145	381	521	902	42.2	57.8	8.7
MR Educable	1,023	1,140	784	936	1,807	2,076	3,883	46.5	53.5	37.5
MR Trainable	302	71	575	204	877	275	1,152	76.1	23.9	11.1
MR Severe/Profound	18	135	149	157	167	292	459	36.4	63.6	4.4
Physically Handicapped	108	49	183	84	291	133	424	68.6	31.4	4.1
Socially & Emotionally Handicapped	137	80	291	171	428	251	679	63.0	37.0	7.0
Speech Correction	237	46	859	115	1,096	161	1,257	87.2	12.8	12.1
Visually Impaired	33	13	114	47	147	60	207	71.0	29.0	2.0
Other	15	33	-	-	15	33	48	31.2	68.7	0.4
TOTAL	2,286	2,005	4,002	2,049	6,288	4,054	10,342	60.8	39.2	

[1]Source: DEBE-398 and DEBE-813, estimated for 1973-74 school year.

[2]Relationship of Column (5) and Column (6) to Column (7) is given in Column (8) and Column (9).

[3]Column (10) shows relationship of each category to total of special education teachers.

Special education enrollment in 1972-73 is presented by category, school district and intermediate unit for elementary and secondary levels in Table 1. The categories and the data were developed from reimbursement forms DEBE-398 and DEBE-813. The total number of special education pupils shown here, 175,827, represents an increase of 19,780 over 1971-72, or 12.7 per cent. This total is 5,952 greater than that given in Special Education Programs/Services 1972-73, probably because of the accuracy required on state reimbursement forms and the later reporting date, June 1973 compared with December 1972.

In 1972-73, 40.7 of special education pupils were in school district classes and 59.3 in intermediate unit classes. Of these pupils 71.5 per cent were at the elementary level and 28.5 per cent at the secondary level.

Table 2 indicates an estimated special education enrollment in 1973-74 of 214,110, an increase of 38,283 over 1972-73, or 21.7 per cent. Intermediate units increased their enrollment of special education pupils to 75.5 per cent, a one year change of 16.2 per cent. Of these pupils 70.6 per cent were at the elementary level and 29.4 per cent at the secondary level.

Special Education Teachers

The total number of special education teachers actually employed in 1972-73 (Table 3) was 1,768 more than those employed in 1971-72, an increase of 27.8 per cent. This total (8,119) is 880 more than that given in Special Education Programs/Services 1972-73, probably for the same reasons given with respect to reporting the number of special education pupils.

Employment of these special education teachers was 46 per cent in school districts and 54 per cent in intermediate units. Their teaching levels were 61 per cent elementary and 39 per cent secondary. Five categories, mentally retarded educable, speech correction, trainable, brain injured and socially and emotionally disturbed, accounted for the employment of 81 per cent of the special education teachers.

The total staff of special education teachers in 1973-74, as estimated by school officials, June-July 1973, is shown in Table 4. It was estimated that this total staff would be 2,233 larger than in 1972-73, an increase of 27.3 per cent.

The increasing ascendancy of intermediate units in operating special education programs is shown in their employment of 59 per cent of the teachers as compared to the schools districts' 41 per cent. The special education teaching levels were 61 per cent elementary and 39 per cent secondary, the same as in 1972-73.

Special Education Pupil Prevalence Rates

Special education pupil prevalence rates in the total public school population are given in Table 5.

The percentage of special education pupils in the public school population in elementary schools increased from 10.21 per cent in 1972-73 to an estimated 12.56 per cent in 1973-74, an increase of 2.35 per cent. The impact of this exceptional year on projections was reduced to 1.49 per cent by using the two-year average rate. These prevalence rates derived from Pennsylvania data are quite different from the overall theoretical rate given in the literature, 25.83 per cent.[1]

[1]Kinsey, Neil R. A Study of Projected Potential Demand for Special Education Teachers for Pennsylvania by 1980, Millersville State College, Millersville, Pa., December 1972.

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Table 5

Special Education Pupil Prevalence Rates by Category
in Public School Enrollment, 1972-73, 1973-74
and Average Rates

	Elementary[1]			Secondary[1]		
	1972-73 Per Cent	1973-74 Per Cent	Average	1972-73 Per Cent	1973-74 Per Cent	Average
Brain Injured	.40	.67	.535	.05	.12	.085
Detention Homes	.0138	.014	.014	.17	.28	.225
Diagnostic/Clinical	.30	.46	.380	.19	.28	.235
Hearing Impaired	.17	.23	.200	.05	.07	.060
Gifted	.55	1.00	.775	.41	.52	.465
MR Educable	1.64	1.57	1.610	2.21	2.29	2.250
MR Trainable	.45	.56	.505	.21	.26	.235
MR Severe/Profound	.07	.13	.100	.01	.21	.110
Physically Handicapped	.14	.20	.170	.06	.10	.080
Socially/Emotionally	.17	.24	.205	.10	.17	.135
Speech Correction	6.17	7.30	6.735	.63	.90	.765
Visually Impaired	.12	.14	.130	.07	.08	.075
Other	.02	.05	.350	.18	.13	.155
TOTAL	10.21	12.56	11.709	4.34	5.41	4.875

[1]Data for special education were derived from DEBE-398 and DEBE-813. Data on total elementary and secondary public school enrollment were obtained from Public Elementary-Secondary School Report, Division of Educational Statistics, Pennsylvania Department of Education, 1974.

The prevalence rates of secondary special education pupils in the public schools were 4.34 per cent for 1972-73 and 5.41 per cent for 1973-74, but the average increase was 0.53 per cent.

Projections of Special Education Enrollment

Special education pupil prevalence rates for each category were applied to projections of elementary public school enrollment to produce projections of special education annual enrollment.

Table 6 shows actual and projected elementary school enrollments, peaking in 1973-[illegible] and then declining by 198,877 by 1982-83, with proportional effect on special education enrollment. Table 6 also shows a projected decline of enrollment of special education pupils in all categories. Assuming the continuation of present conditions, total special education enrollment in the elementary schools will decline by 28,898 from 1974-75 to 1982-83.

Secondary school enrollment peaked in 1974-75 and is projected to decline by 215,460 by 1982-83 (Table 7). The effect of this decline in the total enrollment on secondary special education pupils is also shown, and it is projected to produce a decline of 10,296 in annual enrollment by 1982-83.

The falling birthrate trend shown in Figure 2 becomes the school enrollment and special education trend shown in Tables 6 and 7.

Table 6

Special Education Enrollment in Elementary Public Schools
in Pennsylvania, 1972-73 to 1982-83

Year	Public Elementary Enrollment[1]	Brain Injured	Detention Homes	Diagnostic & Clinical	Hearing Impaired	Gifted	MR Educable	MR Trainable	MR Severe/ Profound	Physically Handicapped	Socially & Emotionally	Speech Correction	Visually Impaired	Other	Total Special Education
1972-73	1,224,959	4,939	170	3,787	2,166	6,807	20,159	5,574	876	1,756	2,130	75,642	1,492	270	125,768
Projections[2]															
1973-74	1,183,777	8,154	168	5,564	2,799	12,098	18,962	6,421	1,640	2,420	2,905	87,630	1,772	699	148,211
1974-75	1,159,400	6,203	162	4,406	2,319	8,985	18,666	5,855	1,159	1,971	2,377	78,086	1,507	406	132,102
1975-76	1,140,600	6,102	160	4,334	2,281	8,840	18,364	5,760	1,141	1,939	2,338	76,819	1,483	399	129,960
1976-77	1,113,700	5,958	156	4,232	2,227	8,631	17,931	5,624	1,114	1,893	2,283	75,008	1,448	390	126,895
1977-78	1,078,900	5,772	151	4,100	2,158	8,362	17,370	5,448	1,079	1,834	2,212	72,664	1,403	378	122,931
1978-79	1,043,300	5,582	146	3,965	2,087	8,086	16,797	5,269	1,043	1,774	2,139	70,266	1,356	365	118,875
1979-80	1,011,100	5,409	142	3,842	2,022	7,836	16,279	5,106	1,011	1,719	2,073	68,098	1,314	354	115,205
1980-81	977,900	5,232	137	3,716	1,956	7,579	15,744	4,938	978	1,662	2,005	65,862	1,271	342	111,422
1981-82	944,400	5,053	132	3,589	1,889	7,319	15,205	4,769	944	1,605	1,936	63,605	1,228	331	107,605
1982-83	904,900	4,841	127	3,439	1,810	7,013	14,569	4,570	905	1,538	1,854	60,945	1,176	317	103,104
Category TOTAL		63,245	1,481	44,974	23,714	91,556	190,046	59,334	11,890	20,111	24,252	794,625	15,450	4,251	1,216,310

[1]Public elementary school enrollment is actual for 1972-73 and 1973-74. Enrollment by special education category was based on data provided on DEBE-398 and DEBE-813.

[2]Projections are based on average prevalence rates, 1972-73 and 1973-74, for special education categories. Toal enrollment projections were supplied by Division of Educational Statistics, Pennsylvania Department of Education.

Special Education Enrollment in Public Secondary Schools
in Pennsylvania, 1972-73 to 1982-83

Year	Public Secondary Enrollment[1]	Brain Injured	Detention Homes	Diagnostic & Clinical	Hearing Impaired	Gifted	MR Educable	MR Trainable	MR Severe/ Profound	Physically Handicapped	Socially & Emotionally	Speech Correction	Visually Impaired	Other	Total Special Education Enrollment
1972-73	1,136,326	623	1,951	2,261	627	4,760	25,140	2,441	156	736	1,222	7,174	852	2,116	50,059
	Projections[2]														
1973-74	1,137,660	1,461[3]	3,189	3,262	874	6,046	26,458	2,998	2,437	1,185	1,977	10,451	999	1,541	62,878
1974-75	1,133,400	963	2,547	2,664	680	5,270	25,502	2,664	1,247	907	1,530	8,671	850	1,757	55,252
1975-76	1,120,500	952	2,521	2,633	672	5,210	25,211	2,633	1,233	896	1,513	8,572	840	1,737	54,623
1976-77	1,104,400	939	2,484	2,595	663	5,136	24,849	2,595	1,215	884	1,491	8,449	828	1,712	53,840
1977-78	1,078,400	917	2,426	2,534	647	5,015	24,264	2,534	1,186	863	1,456	8,250	809	1,672	52,573
1978-79	1,045,100	888	2,351	2,456	627	4,860	23,515	2,456	1,150	836	1,411	7,995	784	1,620	50,949
1979-80	1,005,100	854	2,261	2,362	603	4,674	22,615	2,362	1,106	804	1,357	7,689	754	1,558	48,999
1980-81	971,400	826	2,185	2,283	583	4,517	21,857	2,283	1,069	777	1,311	7,431	729	1,506	47,357
1981-82	941,400	800	2,118	2,212	565	4,378	21,182	2,212	1,036	753	1,271	7,202	706	1,459	45,894
1982-83	922,200	784	2,074	2,167	553	4,288	20,750	2,167	1,014	738	1,245	7,055	692	1,429	44,956
TOTAL	11,595,886	10,007	26,107	27,429	7,094	54,154	261,343	27,345	12,849	9,379	15,784	88,939	8,843	18,107	567,380

[1]Public elementary school enrollment is actual for 1972-73 and 1973-74. Enrollment for categories was based on DEBE-813.

[2]Total enrollment Projections for 1974-75 to 1982-83 were supplied by the Division of Educational Statistics, Pennsylvania Department of Education.

[3]Projection of special education pupils in each category were based on average prevalence rates for 1972-73 as derived from DEBE-398 and DEBE-813.

Average Number of Pupils Per Special Education Teacher

By determining the average number of pupils per teacher from 1972-73 and 1973-74 data, the researcher can use the data in Tables 6 and 7 to determine the total demand by category for special education teachers. The norm of pupils per teacher was chosen because it includes pupils served by both itinerant and classroom teachers. State-mandated class size for each category is not an overall useful criterion to determine special education teacher demand from available data.

Table 8 presents the average number of pupils per teacher for public elementary and secondary schools in 1972-73 and 1973-74 in each special education category.

Table 8

Average Number of Pupils Per Teacher by
Special Education Categories, 1972-73 and 1973-74

Category	Pupils Per Teacher	
	Elementary	Secondary
Brain Injured	9.7	13.0
Detention Homes	38.0	47.5
Hearing Impaired	10.6	9.8
Gifted	36.0	14.2
MR Educable	10.6	13.3
MR Trainable	7.9	11.2
MR Severe/Profound	9.7	5.0
Physically Handicapped	8.2	7.9
Socially & Emotionally	6.6	8.1
Speech Correction	82.5	55.5
Visually Impaired	12.5	16.1
Other	31.7	33.5
Average	23.7	19.6

Derived from Data on DEBE-813 and DEBE-398.

Total Demand for Special Education Teachers

Using the projection of special education students in public elementary schools (Table 6) and ratios of pupils per teacher in each category (Table 8), the researcher developed the projections of total demand for special education teachers (Table 9) through 1982-83. The number of elementary school special education teachers, peaking at 6,288 in 1973-74, is projected to drop to 4,223 in 1982-83.

Using the foregoing procedure with the projections of special education pupils in public secondary education, the researcher produced the projections shown in Table 10. They indicate a drop from 4,054 special education teachers in 1973-74 to 2,872 in 1982-83.

Total demand for special education teachers, both elementary and secondary, was 10,342 in 1973-74 and is projected to drop to 7,095 in 1982-83 (Table 23, column

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Table 9

Special Education Teacher Total Demand by Category for Elementary Public Schools, 1972-73 to 1982-83

Year	Brain Injured	Detention Homes	Hearing Impaired	Gifted	MR Educable	MR Trainable	MR Severe/ Profound	Physically Handicapped	Socially & Emotionally Handicapped	Speech Correction	Visually Impaired	Other	TOTAL
1972-73[1]	524	7	203	169	1,730	665	91	218	328	889	116	16	4,956
Projections[2]													
1973-74	810	4	265	381	1,807	877	167	291	428	1,096	147	15	6,288
1974-75	639	5	219	250	1,761	741	119	240	358	946	121	13	5,412
1975-76	629	5	215	246	1,732	729	118	236	352	931	119	13	5,325
1976-77	614	4	210	240	1,692	712	115	231	344	909	116	12	5,199
1977-78	595	4	204	232	1,639	690	111	224	333	881	112	12	5,037
1978-79	575	4	197	225	1,585	667	108	216	322	852	108	12	4,871
1979-80	558	4	191	218	1,536	646	104	210	312	825	105	11	4,720
1980-81	539	3	185	211	1,485	625	101	203	302	798	102	11	4,565
1981-82	521	3	178	203	1,434	604	97	196	292	771	98	10	4,407
1982-83	499	3	171	195	1,374	578	93	188	279	739	94	10	4,223
TOTAL	6,503	46	2,238	2,570	17,775	7,534	1,224	2,453	3,650	9,637	1,238	135	55,003

[1]Data for 1972-73 and 1973-74 are based on DEBE-398 and DEBE-813.

[2]Projections for 1974-75 to 1982-83 are based on Division of Educational Statistics projections of total elementary public school enrollment and the average of special education prevalence rates for each category.

Table 10

Special Education Teacher Total Demand by Category for Secondary Public Schools, 1972-73 to 1982-83

Year	Brain Injured	Detention Homes	Hearing Impaired	Gifted	MR Educable	MR Trainable	MR Severe/ Profound	Physically Handicapped	Socially & Emotionally Handicapped	Speech Correction	Visually Impaired	Other	TOTAL
1972-73[1]	44	59	71	283	1,820	213	106	106	146	156	55	104	3,163
Projections[2]													
1973-74[1]	120	51	81	521	2,076	275	292	133	251	161	60	33	4,054
1974-75	74	47	69	371	1,917	238	249	115	189	156	53	52	3,530
1975-76	73	46	69	367	1,896	235	247	113	187	154	52	52	3,491
1976-77	72	45	68	362	1,868	232	243	112	184	152	51	51	3,440
1977-78	71	44	66	353	1,824	226	237	109	180	149	50	50	3,359
1978-79	68	43	64	342	1,768	219	230	106	174	144	49	48	3,255
1979-80	66	41	62	329	1,700	211	221	102	168	139	49	47	3,135
1980-81	64	40	59	318	1,643	204	214	98	162	134	45	45	3 026
1981-82	62	39	58	308	1,593	198	207	95	157	130	44	44	2,935
1982-83	60	38	56	302	1,560	193	203	93	154	127	43	43	2,872
TOTAL	774	493	723	3,856	19,665	2,444	2,449	1,182	1,952	1,602	551	569	36,260

[1]Actual numbers for 1972-73, with estimates for 1973-74 DEBE-398 and DEBE-813.

[2]Average prevalence rates, 1972-73 and 1973-74, were applied to Division of Educational Statistics projections of total enrollment to determine number of pupils in each special education category and average class size was used to determine number of teachers.

This total demand is, however, quite different from annual need shown in Figure 1 as annual hiring demand. Annual hiring demand includes only the special education teachers needed for annual growth and annual withdrawal. Annual hiring demand, as reported by school officials for 1971-72, 1972-73 and 1973-74, is given in Table 11.

Table 11

Hiring Demand for Special Education Teachers in Pennsylvania, 1971-74

Category	1971-72	Per Cent	1972-73	Per Cent	1973-74	Per Cent	Total	Per Cent of Total
Brain Injured	0	0	0	0	299	21.9	299	8.3
Hearing Impaired	25	2.9	46	3.4	33	2.4	104	2.9
Gifted (Elem.)	0	0	55	4.0	45	3.3	100	3.0
Gifted (Sec.)	0	0	33	2.4	17	1.2	50	1.4
MR Educable (Elem.)	247	29.0	227	16.6	185	13.5	659	18.4
MR Educable (Sec.)	229	26.8	128	9.4	190	13.9	547	15.3
MR Trainable	0	0	227	16.6	220	16.1	447	12.5
Physically Handicapped	39	4.6	64	4.7	36	2.6	139	3.8
Restoration	12	1.4	92	6.7	7	.5	111	3.1
Socially & Emotionally Disturbed	89	10.4	188	13.7	158	11.6	435	12.1
Speech Correction	141	16.5	166	12.2	175	12.8	482	13.4
Speech/Hearing Handicapped	51	6.0	80	5.9	0	0	131	3.6
Visually Handicapped	20	2.3	59	4.3	0	0	79	2.2
Total	853		1,365		1,365		3,583	100.0

Source: Division of Educational Statistics, Pennsylvania Department of Education, Form DEAS-409, unpublished data.

Hiring demand for special education teachers rose from 853 in 1971-72 to 1,365 in 1972-73, a 60 per cent increase, but remained the same in 1973-74. The average percentage distribution of hiring demand among special education categories is given in the last column of Table 11 and it shows that 80 per cent of the hiring was in five categories: mentally retarded educable, speech correction, trainable, socially and emotionally disturbed and brain damaged. Comparisons with Tables 3 and 4 indicate hiring demand in excess of the total staff proportionate average existed significantly in three categories in this priority order: (1) socially and emotionally disturbed, (2) speech correction and (3) brain damaged. The biggest category of hiring, mentally retarded educable, dropped, however, by 6.6 per cent below the average staff rate.

Placement of Special Education Graduates at One State College

The placement of Slippery Rock State College's 1973 special education graduates, as of September 15, 1973, is shown in Table 12.

The 142 graduates represented three special education categories: mentally retarded, physically handicapped and socially and emotionally disturbed; 69.7 per cent were employed by public schools compared with 67.86 per cent for all categories

Table 12

Occupational Placement of 1973 Special Education Graduates From One State-Owned Higher Education Institution

Employer	Mentally Retarded		Physically Handicapped		Emotionally Disturbed		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Ce
Public School District	54	71.0	19	79.2	26	61.9	99	69.7
Residential Center	1	1.3	0	0.0	1	2.4	2	1.4
Private School	1	1.3	0	0.0	0	0.0	1	.7
College/University	4	5.3	0	0.0	3	7.1	7	4.9
Community Agency	0	0.0	1	4.2	2	4.8	3	2.1
State Agency	4	5.3	0	0.0	2	4.8	6	4.2
Federal Agency	2	2.6	0	0.0	1	2.4	3	2.1
Clinic/Hospital	2	2.6	0	0.0	0	0.0	2	1.4
Private Practice	1	1.3	0	0.0	0	0.0	1	.7
Housewife (Full-time)	3	3.9	2	8.3	2	4.8	7	4.9
Industry	2	2.6	0	0.0	0	0.0	2	1.4
Unemployed	2	2.6	2	8.3	5	11.9	9	6.3
Totals	76	100.0	24	100.0	42	100.0	142	100.0

Source: Survey of Occupational Placement of Slippery Rock State College Special Education Graduates for 1973 Academic Year, completed as of September 15, 1973, by Dr. Jack C. Dinger, Chairman, Department of Special Education

statewide, 1972-73, and 63 per cent, 1973-74 (Table 25). Unemployed special education graduates were 6.3 per cent and full-time housewives, 4.9 per cent, a total of 11.2 per cent. The remaining 29 graduates, or 20 per cent, went to nine different settings: how many of these went out-of-state is unknown; how many of these positions utilized their special education is unknown.

Some Characteristics of Special Education Teachers

Demand for special education teachers includes the number who withdraw from teaching each year. Withdrawal is influenced by a variety of factors (Table 22) and the basic characteristics of the special education teacher staff.

Sex, Level of Education and Years of Service of Special Education Teachers

For 6,039 special education teachers in 1972-73, the Professional Personnel Report, 1973, issued by the Pennsylvania Department of Education, provided by special categories the proportions of males and females, average level of education and average years of service.

The proportion of women in special education is 69.7 per cent (Table 13) compared to 58.1 per cent in regular teaching. This greater proportion of women in

Table 13

Special Education Personnel by Sex, Average Level of Education and Average Years of Service, 1972-73

Category	Total		Average Level Education		Average Years Service	
	Male	Female	Male	Female	Male	Female
Brain Injured	55	260	4.75	4.68	4.04	3.58
Deaf/Hard of Hearing	15	117	5.33	5.18	6.60	8.26
Mentally Advanced, Elem.	32	72	5.31	4.69	10.25	10.64
Mentally Advanced, Sec.	12	10	4.58	5.00	7.42	8.70
MR Educable, Elem.	362	1,364	4.75	4.33	7.68	9.17
MR Educable, Sec.	837	499	4.71	4.41	8.18	9.84
MR Trainable	79	514	4.75	4.09	5.32	7.47
Physically Handicapped	39	189	4.49	4.54	6.69	10.43
Restoration	7	12	5.57	4.33	6.29	4.67
Socially and Emotionally Maladjusted	156	288	4.74	4.59	5.79	4.44
Speech Correction	166	612	4.93	4.76	8.30	7.01
Handicapped Speech/ Hearing	40	157	5.15	4.62	6.55	3.92
Visually Handicapped	31	114	5.39	4.83	7.61	8.94
All Special Ed	1,831	4,208	4.95	4.61	6.97	7.46
All Teachers	51,289	71,010	5.04	4.39	9.62	6.87

Source: Professional Personnel Report 1972-73, Division of Educational Statistics, Pennsylvania Department of Education, 1973, p. 17.

special education would increase the annual withdrawal rate by an estimated 0.43 per cent above that for all regular teachers.

Of the 6,039 special education teachers reported, women had an average of 4.61 years of college education compared with an average of 4.39 years in the general operation. Men had an average of 4.95 years of college education compared with an average of 5.04 years in the general operation. The average woman in special education is somewhat better prepared than the average woman in the general operation.

For this same group the average years of service for women was 7.46 compared with 6.87 in regular teaching, and for men 6.97 years compared with 9.62 years. The fewer years average service for all special education teachers is probably due to the increased attention given special education in recent years.

Distribution of Special Education Teachers by Years of Service

Table 14 shows a distribution of special education teachers by years of service.

Of the 6,039 teachers reported, 54.8 per cent were in the 1-5 years of service category, a fact that points to a low withdrawal rate over the next 10 years.

Table 14

Distribution of Pennsylvania Special Education Professional Personnel by Years of Service, 1972-73

Category	Total	Per Cent	Years of Service 1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-Up
Brain Injured	315	5.2	256	37	14	8	0	0	0	0
Deaf & Hard of Hearing	132	2.2	65	32	14	10	7	3	1	0
Mentally Advanced, Elem.	104	1.7	34	29	21	8	3	4	3	2
Mentally Advanced, Sec.	22	0.4	11	5	4	1	0	0	0	1
MR Educable, Elem.	1,726	28.6	928	275	198	124	75	60	24	42
MR Educable, Sec.	1,336	22.1	575	339	202	106	57	29	15	13
MR Trainable	593	9.8	342	116	55	33	23	20	2	2
Physically Handicapped	228	3.8	116	36	24	15	15	8	5	9
Restoration	19	0.3	11	5	2	10	1	0	0	0
Socially & Emotionally Maladjusted	444	7.4	315	83	24	13	5	0	1	3
Speech Correction	778	12.9	436	159	87	52	19	15	4	6
Handicapped Speech/ Hearing	197	3.3	149	30	10	6	1	0	1	0
Visually Handicapped	145	2.4	74	33	12	12	3	4	1	6
Total	6,039	100.0	3,312	1,179	667	388	209	143	57	84
Per Cent			54.8	19.5	11.1	6.4	3.5	2.4	0.9	1.4

Source: Professional Personnel Report 1972-73, Division of Educational Statistics, Pennsylvania Department of Education, 1973, p. 19.

With only 2.3 per cent in the group having 31 or more years of service and only 2.4 per cent in the 26-30 years of service group, the service retirement rate for 1973-83 will be about 0.35 per cent lower than that for regular teachers.

Age Range of Special Education Teachers

Thirteen per cent of the 6,039 special education teachers reported were 55 or older. This represents a potential retirement rate of 1.3 per cent annually, 1973-83, compared with 1.2 per cent annually for regular teachers (Table 15).

Because special education classes have been established for the mentally retarded educable, trainable, physically handicapped and speech correction for a longer period, 90 per cent of the retirements, 1973-83, will be in these categories.

Comparison of Special Education Teachers and Regular Teachers by Age Groups

Table 16 offers a comparison of the percentage of teachers in the various age groups for special education and regular teachers.

Table 15

Age Range of Special Education Teachers by Category, 1972-73

Category	Total	Age Range 10-20	Per Cent	20-24	Per Cent	25-29	Per Cent	30-34	Per Cent	35-39	Per Cent	40-44	Per Cent	45-49	Per Cent	50-54	Per Cent	55-59	Per Cent	60-64	Per Cent	65-Up	Per Cent
Brain Injured	315			113	35.9	124	39.4	26	8.3	18	5.7	13	4.1	9	2.9	5	1.6	5	1.6	1	.3	1	.3
Deaf/Hard of Hearing	132			16	12.1	37	28.0	21	15.9	13	9.8	14	10.6	14	10.6	7	5.3	7	5.3	3	2.3		
Mentally Adv., Elem.	104			14	13.5	21	20.2	17	16.3	15	14.4	14	13.5	4	3.8	5	4.8	6	5.8	6	5.8	2	1.9
Mentally Adv., Sec.	22			7	31.8	3	13.6	4	18.8	4	18.2	1	4.5	1	4.5	1	4.5	1	4.5				
MR Educable, Elem.	1,726			306	17.9	575	32.4	154	8.7	95	5.3	106	6.0	90	5.1	91	5.1	174	9.8	135	7.6	50	2.8
MR Educable, Sec.	1,336	1	.07	171	12.8	378	28.3	212	15.9	126	9.4	120	9.0	95	7.1	73	5.5	66	4.9	77	5.8	17	1.3
MR Trainable	593			147	24.8	168	28.3	46	7.8	27	4.6	31	5.2	41	6.9	35	5.9	39	6.6	42	7.1	17	2.9
Phys. Handicapped	228			38	16.7	65	28.5	16	7.0	14	6.1	16	7.0	11	4.8	14	6.1	17	7.5	31	13.6	6	2.6
Restoration	19			5	26.3	5	26.3	4	21.1	2	10.5	1	5.3	2	10.5								
Socially/Emotionally Maladjusted	444	1	.23	117	26.4	167	37.6	62	14.0	23	5.2	21	4.7	26	5.9	13	2.9	8	1.8	6	1.4	1	.2
Speech Correction	778			165	21.2	282	36.2	98	12.6	64	8.2	53	6.8	47	6.0	25	3.2	28	3.6	7	.9	8	1.0
Speech/Hearing Handicapped	197			66	34.0	85	43.1	20	10.2	6	3.0	8	4.1	5	2.5	2	1.0	2	1.0	3	1.5		
Visually Handicapped	145			17	11.7	48	33.1	27	18.6	5	3.4	7	4.8	11	7.6	4	2.8	14	9.7	11	7.6	1	.7
TOTAL	6,039	2	.03	1,182	19.6	1,958	32.2	707	11.7	412	6.8	405	6.7	356	5.8	275	4.5	367	6.0	322	5.3	103	1.7

Source: Professional Personnel Report 1972-73, Division of Educational Statistics, Pennsylvania Department of Education, 1973, p. 21.

Table 16

Average Comparative Age of Special Education Teachers and Other Elementary School Teachers in Pennsylvania 1972-73

Position	Under 20	20-24	25-29	30-34	35-39	40-44	45-49	50-59	60-64	65-Over
Special Education Teachers[1]	0.03	19.6	32.2	11.7	6.8	6.7	5.8	5.3	5.3	1.7
Elementary Teachers[1]	0.02	14.1	29.4	11.9	7.4	7.5	6.4	5.7	8.3	1.9

[1]Based on the Professional Personnel Report 1973, Division of Educational Statistics, Bureau of Information Systems, Pennsylvania Department of Education, Table 10, p. 21.

One can see that special education teachers are generally younger than regular teachers. In the 50-years-and-up group the percentage for special education teachers is 12.3 compared to 15.9 per cent for regular teachers. Withdrawal for retirement is potentially less for special education teachers than others in the 1973-83 period.

How many teachers are in the supply pool in Pennsylvania? This has bearing on the returnee rate each year and on the number teaching with less than the most recent certification requirements.

SUPPLY OF SPECIAL EDUCATION TEACHERS

Special Education Certificates 1972-73

The Professional Personnel Report 1972-73 records 873 certificates in speech correction and 5,251 in special education, a total of 6,124. Among these were 153 emergency certificates and 444 of "unknown" description. There were an additional 1,071 teachers (Table 17) with less than full certification.

Among 6,124 recorded certificates in 1972-73 were a total of 1,668 which represented potentially less than full certification or 27.2 per cent of the certificates.

Since reimbursement reports for special education indicated a total of 8,119 teachers in 1972-73, it is clear that almost 2,000 teachers must have been working in special education who were not among those recorded as certificated in the Professional Personnel Report, or 24.5 per cent of these state-reimbursed teachers. Are regular teachers being used with special education classes? The answer is not clear.

Special Education Certificates, 1935-1974

By February 1974, special education certification had been granted to 15,343 teachers. In 32 years, 1935-66 inclusive, only 781 teachers were certified.

Table 17

Special Education and Speech Correction
Personnel by Certification in Pennsylvania, 1972-73

Speech Correction	Certificates	Special Education
4	Emergency	153
1	Limited, Specialist	3
1	Partial	0
0	Extension	0
0	Vocational I	25
0	Vocational II	6
3	Temporary Standard	89
0	State Standard	52
1	Educational Specialist I	3
0	Educational Specialist II	4
0	Interim Standard	9
0	Vocational Interim	2
0	Standard	12
0	Normal Certification	11
13	Interim	401
141	Provisional	570
417	Instructional I	1,755
3	Instructional II	62
0	Normal Diploma	108
0	Permanent Standard	34
246	Permanent	1,522
5	Master Equivalent	24
38	Unknown	406
Total 873		5,251

Source: Professional Personnel Report 1972-73, Division of Educational Statistics, Pennsylvania Department of Education, 1973, p. 12ff.

In six years, 1967-1973, 14,362 special education teachers were certified, an average of 1,795 annually. In 1971, 1972 and 1973, a total of 10,075 teachers were certified in special education, representing 64.6 per cent of this teacher-supply pool (Table 18).

Annual withdrawals from the certificated supply pool of special education teachers, 1935-73, for all categories (Table 23) total about 1,110 teachers. This would leave a supply of 13,459 certificated teachers through February 1974. Since reimbursement data indicated a total of 10,342 special education teachers in 1973-74 (Table 4), it would appear that the supply pool may contain 3,117 unused special education teachers. How many of these have taken courses to give them the specialization of present college graduates is unknown. But in view of the Professional Personnel Report on 6,039 special education teachers previously analyzed, it seems in-service upgrading of special education teachers is greatly needed.

Special Education Teachers Certificated and Teaching

The nature of the certification of special education personnel compared with their teaching assignment appears in Table 19.

Table 18

Number and Year of Certification of Special Education Teachers in Pennsylvania by Special Areas

Category	Prior 1935	1936-40	1941-45	1946-50	1951-55	1956-60	1961-64	1965-66	1967	1968	1969	1970	1971	1972	1973	1974	Total
Emotionally Disturbed	-	-	-	-	-	5	1	7	9	53	93	116	249	324	537	14	1,408
Hearing Impaired	-	1	1	-	2	5	16	7	7	19	34	46	71	89	105	7	410
Mentally Advanced	-	-	-	-	-	2	2	-	-	-	-	3	-	1	-	-	8
Mentally Retarded	5	4	9	10	24	107	221	147	247	692	921	1,144	1,580	1,916	2,436	120	9,583
Mentally Trainable	-	-	-	-	-	-	-	-	-	8	38	46	38	3	3	-	136
Physically Handicapped	2	-	3	8	2	10	10	7	20	38	49	87	142	169	228	5	780
Restoration	-	-	-	-	-	12	1	-	-	-	-	-	-	-	1	-	14
Social Restoration	-	1	-	-	-	-	-	-	-	-	-	-	-	6	29	2	38
Speech Correction	-	-	5	2	6	25	51	25	24	86	120	111	176	210	423	47	1,311
Speech-Hearing Impaired	-	-	-	-	-	-	3	9	57	94	120	139	276	300	329	4	1,331
Supervisor	-	-	-	-	-	-	-	-	-	-	-	7	1	93	140	7	248
Visually Impaired	-	1	-	1	-	5	10	6	5	26	29	40	58	60	82	1	324
Total	7	7	18	21	34	171	315	208	369	1,016	1,404	1,739	2,591	3,171	4,313	207	15,591

(From computer print-out of certificated special education teachers, February 1974.)

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Table 19

Special Education Teachers Certificated Compared With Number Teaching in Each Category, 1973-74

Category	Certificated[1] (1)	Presently Teaching[2] (2)	Column (1) - Column (2) (3)
Brain Injured	0	930	-
Detention Homes	0	55	-
Hearing Impaired	410	346	+ 64
Mentally Advanced (Gifted)	8	902	- 894
MR Educable	9,585	3,883	+ 5,702
MR Trainable	136	1,152	- 1,016
MR Severe/Profound	0	459	-
Physically Handicapped	780	424	+ 356
Restoration	52	19[3]	+ 33
Socially/Emotionally Disturbed	1,408	679	+ 729
Speech Correction	1,311	1,257	+ 54
Speech/Hearing Handicapped	1,331	197[4]	+ 1,134
Supervisor Special Education	248	127	+ 121
Visually Impaired	324	207	+ 117
Other	0	48	-
TOTAL	15,593	10,685	

[1] Computer Print-out of Certificates, February, 1974.

[2] From DEBE-398 and DEBE-813, Reports to Pennsylvania Department of Education for Reimbursement, 1973-74 Estimated, July 1973, using average of prevalence ratios for 1972-73 and 1973-74.

[3] Professional Personnel Report 1972-73, Division of Statistics, Pennsylvania Department of Education, 1973, p. 19.

[4] Ibid.

The total given for special education teachers, 1973-74, in Table 19 was 10,685 compared with 10,342 given in Table 4. The higher total is attributable to the inclusion of three additional categories--supervisor of special education, speech and hearing handicapped and restoration.

Column 3 shows the surplus or shortage of special education teachers in terms of certification for a given category. Not enough teachers have specialization certification for the trainable. Too many teachers have specialization certification for the mentally retarded educable--5,702 more than teaching positions. Not enough teachers have specialization in teaching the gifted.

Special Education Graduates from Teacher-Preparing Institutions in Pennsylvania

Table 20 contains the results of a survey of Pennsylvania teacher-preparing institutions to determine the number of special education graduates by specialization,

Table 20

Special Education Teacher Supply from Teacher-Preparing Institutions in Pennsylvania, Graduates 1970-74

Specialization	1970	1971	1972	1973	1974	TOTAL	Mean	Average Per Cent Change
Brain Injured	0	0	1	2	5	8	2.6	133.0
Early Childhood (Special Ed.)	0	0	0	9	10	19	9.5	37.0
Educationally Retarded	41	61	61	93	78	334	66.8	18.1
MR Educable (Elem.)	180	194	217	345	362	1,298	259.6	24.3
MR Educable (Sec.)	15	17	23	56	91	202	40.4	101.3
MR Educable (Elem./Sec.)	205	239	299	422	465	163	326.0	25.3
MR Trainable (Elem.)	0	0	8	31	46	85	28.3	157.5
MR Trainable (Sec.)	0	0	3	13	29	45	15.0	286.6
MR Trainable/Educable (Elem.)	54	74	91	84	71	374	74.8	6.3
MR Trainable/Educable (Sec.)	11	25	37	28	49	150	30.0	69.1
Gifted	0	0	0	2	2	4	2.0	0
Hearing Impaired (Elem./Sec.)	31	23	29	27	36	146	29.2	3.2
Learning Disabled	0	0	33	16	21	70	23.3	- 7.3
Physically Handicapped (Elem.)	39	48	36	34	52	209	41.8	6.6
Physically Handicapped (Sec.)	4	5	6	4	12	31	6.2	16.0
Socially/Emotionally Maladjusted (Elem.)	38	63	101	102	100	404	80.8	32.6
Socially/Emotionally Maladjusted (Sec.)	4	12	29	29	34	108	21.6	150.0
Socially/Emotionally Maladjusted (Elem./Sec.)	28	47	55	85	101	316	63.2	152.1
Speech Correction (Elem.)	123	130	168	233	233	887	177.4	17.8
Speech Correction (Elem./Sec.)	127	133	162	234	211	867	173.4	13.2
Speech & Hearing (Elem./Sec.)	46	71	74	119	111	421	84.2	28.6
Visually Impaired (Elem./Sec.)	21	28	40	43	40	172	34.4	18.1
TOTAL	967	1,109	1,473	2,011	2,159	7,719	1,543.8	139.6

Source: Survey of Teacher-Preparing Higher Education Institutions in Pennsylvania, 1974.

1970-74. In the four-year period, the production of special education graduates more than doubled, 967 to 2,159. In this period 7,719 special education teacher graduates were produced by the teacher-preparing institutions, equivalent to almost 75 per cent of the special education teachers employed in Commonwealth schools in 1973-74. Of these 7,719 graduates about 47 per cent were specialized in two areas, speech and mentally retarded educable. But even with this great increase in the number of special education teachers, there appears to be insufficient specialization: only eight for brain injured, only 31 for physically handicapped (secondary), only four for gifted.

Special Education Teachers in Preparation

Table 21 shows the results of a survey of teacher-preparing institutions regarding the number of students in the 1975-77 classes who are preparing to be special education teachers. In the class of 1975 the number of special education graduates will exceed the class of 1974 by 571 teachers, class of 1976 by 570 teachers and class of 1977 by 697. The 8,315 students preparing for special education, classes of 1975-77, represent the production of 2,672 more special education teachers than in the prior three-year period, a 47 per cent increase. There is, of course, no way to know how much attrition may occur among students who change majors and/or drop out of college for economic and other reasons.

Table 21

Special Education Teachers in Preparation in Teacher-Preparing Institutions in Pennsylvania, Classes 1975-77

Specialization	1975	1976	1977	TOTAL	Mean	Average Per Cent Change
Brain Injured	10	15	20	45	15.0	33.3
Early Childhood (Special Ed.)	15	15	15	45	15.0	0
Educationally Retarded (Elem.)	69	63	55	187	62.3	- 6.8
Educationally Retarded (Sec.)	9	8	8	25	8.3	- 3.7
Gifted	6	8	10	24	8.0	22.2
Hearing Impaired (Elem./Sec.)	51	54	54	159	53.0	1.9
MR Educable (Elem.)	353	347	356	1,056	352.0	.28
MR Educable (Sec.)	99	126	124	349	116.3	8.4
MR Educable (Elem./Sec.)	553	622	614	1,889	629.6	- 1.9
MR Trainable (Elem.)	63	69	71	203	67.6	4.2
MR Trainable (Sec.)	32	48	40	120	40.0	8.3
MR Trainable/Educable (Elem.)	81	85	87	253	84.3	2.5
MR Trainable/Educable (Sec.)	39	41	47	127	42.3	6.8
Learning Disabled	50	50	50	150	50.0	0
Physically Handicapped (Elem.)	35	39	35	109	36.3	0
Physically Handicapped (Sec.)	11	13	7	31	10.3	-12.1
Speech Correction (Elem.)	350	317	423	1,090	363.3	6.9
Speech Correction (Elem./Sec.)	329	278	346	953	317.6	1.6
Speech & Hearing (Elem./Sec.)	120	127	91	338	112.6	- 8.1
Socially/Emotionally Maladjusted (Elem.)	123	130	113	366	122.0	- 2.7
Socially/Emotionally Maladjusted (Sec.)	49	56	53	158	52.6	2.7
Socially/Emotionally Maladjusted (Elem./Sec.)	114	132	155	401	133.6	11.9
Visually Impaired	69	86	82	237	79.0	6.3
TOTAL	2,730	2,729	2,856	8,315	2,771.0	1.5

Source: Survey of Teacher-Preparing Higher Education Institutions in Pennsylvania, 1974.

These classes tend to indicate some improvement in the proportion of graduates in the teaching areas of brain injured, gifted, physically handicapped, learning disabled and early childhood special education. The number of teachers preparing, however, for the physically handicapped secondary area dropped to seven for 1977. If this is in response to job availability in public secondary schools then there may be some question about the adequacy of the provision for special education pupils at the secondary level.

Special Education Teacher Supply in Relation to Total Teacher Supply

By relating special education graduate supply to projected teacher graduates in Table 22, the researcher projected special education teacher graduate supply 1977-78 to 1982-83.

Table 22

Special Education Teacher Supply from the Teacher-Preparing Institutions in Pennsylvania, 1969-70 to 1982-83

Year	Total Education Graduates[1]	Special Education Graduates and Intended Graduates[2]	Special Education Proportion of Graduates[3]
1969-70	18,182	967	.0537
1970-71	19,172	1,109	.0578
1971-72	20,295	1,473	.0725
1972-73	20,205	2,011	.0991
	Projections		
1973-74	19,400	2,159	.1113
1974-75	18,800	2,730	.1452
1975-76	18,500	2,729	.1475
1976-77	18,300	2,856	.1560
		Projections	
1977-78	18,100	2,707	
1978-79	17,900	2,677	
1979-80	17,600	2,632	
1980-81	17,200	2,572	
1981-82	17,000	2,543	
1982-83	16,500	2,468	

[1] Projections, Selected Statistics for Pennsylvania 1983-84, Division of Statistics, Bureau of Information Systems, Department of Education, Table 10.

[2] Actual graduates 1969-70-1973-74 and special education students in classes for 1975, 1976 and 1977.

[3] Average rate for 1974-75-1976-77 is used to project special education graduates for 1977-78 to 1983-84 (.14956).

The supply of special education teacher graduates is projected to peak at 2,856 in 1976-77, then drop to 2,468 in 1982-83. These projections may prove to be high as students get the message of oversupply and change their plans accordingly.

Projected Special Education Teacher Demand

Previous tables show the total demand for elementary special education teachers (Table 9) and secondary special education teachers (Table 10). They indicate a declining demand paralleling the falling birth rates that determine the trends for school population. From this information a projection of the growth trend was made for special education teachers.

The withdrawal rate for 1972-73 actual data was .0867. For 1973-74 estimated data on state reimbursement forms, it was .0713. But using the actual reported withdrawals for all teachers 1972-73 and 1973-74 (Table 23), the researcher derived an average withdrawal rate of .0810. The withdrawal rate then developed was .08135, slightly higher to account for the above-average proportion of women in special education and the higher withdrawal rate of women.

Table 23

Teacher Withdrawal Ratios for 1972-73 and 1973-74[1]

Reason	1972-73	1973-74
Retirement	.0297	.0271
Better Salary	.0029	.0025
Attend College	.0039	.0035
Marriage	.0050	.0052
Unsuited to Teaching	.0016	.0012
Teaching Conditions	.0001	.0001
Decreased Enrollment	.0003	.0006
Death	.0017	.0021
Illness	.0013	.0013
Maternity	.0115	.0097
Replaced by Regular Teacher	.0025	.0053
Husband Transferred	.0106	.0098
Other Reasons	.0180	.0203
TOTAL STAFF	.0891	.0887
Teachers	.0825	.0795

[1]Withdrawal ratios were developed from data given in Table 17, Professional Personnel Report 1972-73 and 1973-74. Adjusting average staff rate to eliminate administrators and supervisors and replacements for substitutes, one gets teacher withdrawal rates shown.

This rate was applied to column 3, Table 24, to develop the number of withdrawals shown in column 5. Combining projected growth and projected replacement for withdrawals produced the projected annual hiring demand shown in column 6.

As special education enrollment falls, teachers already employed become available to reduce normally expected annual replacement of special education teachers. This in turn reduces the hiring demand for new teachers.

If one were to assume that the projected hiring demand is too low and assume that it will continue, as in 1972-73 and 1973-74, Pennsylvania would still produce about twice as many special education teachers as it will need--average annual production, 1973-74 through 1976-77, projected as 2,618 (Table 22) compared with 1,365 hiring demand (Table 24).

Table 24

Total Demand for Special Education Teachers in Pennsylvania Public Schools, 1972-73 to 1982-83

Year	Elementary Schools[1] Teacher Demand	Secondary Schools[1] Teacher Demand	TOTAL	Annual Growth Change[2]	Annual Replacement[3]	Annual Hiring Demand[4]
	(1)	(2)	(3)	(4)	(5)	(6)
1972-73	4,956	3,163	8,119	661	704	1,365
1973-74	6,288	4,054	10,342	628	737	1,365
	Projections[5]					
1974-75	5,412	3,530	8,942	628	731	1,359
1975-76	5,325	3,491	8,816	502	721	1,223
1976-77	5,199	3,440	8,639	325	706	1,031
1977-78	5,037	3,459	8,396	82	687	769
1978-79	4,871	3,255	8,126	-188	664	476
1979-80	4,720	3,135	7,855	-271	642	371
1980-81	4,565	3,026	7,591	-264	621	357
1981-82	4,407	2,935	7,342	-249	600	351
1982-83	4,223	2,872	7,095	-247	580	333
TOTAL	55,003	36,260	91,263		7,393	9,000
Mean	5,000	3,215	8,297		672	818

[1] Derived from actual data on DEBE-398 and DEBE-813 and Division of Statistics projections of total public school enrollment.

[2] For 1972-73 and 1973-74, actual data from DEAS-409 were used. For 1974-75 through 1982-83 the impact of declining enrollment produced negative growth.

[3] For 1972-73 and 1973-74, actual data from DEAS-409 were used.

[4] Based on actual hiring demand data from DEAS-409 for 1972-73 and 1973-74 and projections for 1974-75 through 1982-83.

[5] The impact of new legislation became evident in 1973-74 data, but may have been overestimated in the DEBE-813 estimates; thus prevalence rates for 1972-73 and 1973-74 were averaged, and the effect of declining total enrollment was included.

Matching of Special Education Teacher Supply and Hiring Demand

By matching special education teacher supply and hiring demand, one can determine the extent to which a surplus, shortage or balance of manpower exists.

In Table 25, column 3, the researcher showed the hiring demand (column 2) as a percentage of the college graduate supply (column 1). Hiring demand is projected to drop from 67.9 per cent of supply in 1972-73 to 49.8 per cent in 1974-75 and down to 13.5 per cent in 1982-83. This process could be slowed by intervention of educators and by students responding to the diminishing prospect of getting a job in special education.

Table 25

Special Education Teacher Supply and Demand in Pennsylvania
1972-73 to 1982-83

Year	Special Education Teacher Supply[1]	Special Education Teacher Demand[2]	Demand/ Supply Per Cent	Excess Pa. Supply	Out-of-State Demand[3]	Returnees[4]
	(1)	(2)	(3)	(4)	(5)	(6)
1972-73	2,011	1,365	67.9	646	178	23
1973-74	2,159	1,365	63.2	794	264	27
	Projections					
1974-75	2,730	1,359	49.8	1,371	336	27
1975-76	2,729	1,223	44.8	1,496	335	24
1976-77	2,856	1,031	36.1	1,825	351	20
1977-78	2,707	769	28.4	1,938	333	15
1978-79	2,677	476	17.8	2,201	329	9
1979-80	2,632	371	14.1	2,261	323	7
1980-81	2,572	357	14.0	2,215	316	8
1981-82	2,543	351	13.8	2,192	312	7
1982-83	2,468	333	13.5	2,135	303	5

[1]From Tables 20, 21 and 22.

[2]From Table 24, based on hiring needs.

[3]Average per cent going out-of-state, 1970-73, was used for these projections (.1229).

[4]Returnees on basis of 1972-73 and 1973-74.

If the modern trend toward "mainstreaming" special education students--putting them in classrooms with their peers and giving them support services and resource centers--develops extensively, special education teachers may be able to assist more children per week and consequently reduce the otherwise potential hiring demand, both as a matter of education and matter of finance. Arizona, Arkansas, Connecticut, Colorado, Florida, Massachusetts, New Jersey, Tennessee and Texas have used laws and official mandates to promote "mainstreaming."[2]

If the Commonwealth were to mandate mainstreaming and higher ratios of support services, an opposite trend of greater demand for special education specialists would likely develop, with even higher per-pupil costs.

[2]Flaste, Richard. "Helping Handicapped Into Education's Mainstream," New York Times, May 19, 1974.

Teacher College, Columbia University, in its recently developed building for training special education teachers, Thorndike Hall, offers the most modern education in design and curriculum. It offers a blending of specialties and work in a child-study center to produce "cross-categorically" prepared teachers. It represents a model for preparation of special education teachers,[3] and if it becomes a trend it will improve the instructional adaptability of special education but could conceivably increase the number needed.[4]

Table 25, column 4, shows the excess supply of special education teachers for Pennsylvania from colleges. Column 5 gives the projected out-of-state demand which can reduce the overall excess supply. Column 6 indicates the estimated number of returnees who would increase the excess supply. The more than 3,000 special education-certificated teachers in the supply pool in 1974 who were not teaching are also potential returnees who could further aggravate the manpower surplus.

Hiring Demand by Categories

Table 26 shows the annual hiring demand projected for 1974-75 through 1982-83 according to special education categories.

[3]"Teacher College Adds an Exceptional Building Geared to the Handicapped," College Management, February 1974, p. 26 ff.

[4]Ibid.

Table 26

Projected Hiring Demand for Special Education Teachers in Each Category in Pennsylvania, 1972-73 to 1982-83

	Brain Injured	Hearing Impaired	Gifted	Mentally Retarded, Educable	Mentally Retarded, Trainable	Physically Handicapped	Resto-ration	Socially & Emotionally	Speech Correction	Speech & Hearing	Visually Handi-capped	TOTAL
1972-73	113	40	60	1	171	52	42	165	183	49	30	1,365
1973-74	113	40	60	1	171	52	42	165	183	49	30	1,365
Projected												
1974-75	113	40	60	458	170	52	42	164	182	49	30	1,359
1975-76	102	36	54	412	153	46	38	148	164	44	27	1,223
1976-77	86	30	45	347	129	39	32	125	138	37	23	1,031
1977-78	64	22	34	259	96	29	24	93	103	28	17	769
1978-79	40	14	21	160	60	18	15	58	64	17	11	476
1979-80	31	11	16	125	46	14	12	45	50	13	8	371
1980-81	30	10	16	120	45	14	11	43	48	13	8	357
1981-82	29	10	16	118	44	13	11	42	47	13	8	351
1982-83	28	10	14	113	41	13	10	40	45	12	7	333
TOTAL	749	263	396	2,114	1,126	332	279	1,088	1,207	324	199	9,000

Actual average hiring demand for special education teachers by category, 1971-74, shown in Table 10, was applied to total hiring demand, Table 23, to make projections. Categories used on Form DEAS-409 had to be used here; detention homes and other categories were not used on this form.

SOME FINDINGS OF STUDY

Special Education Teacher Demand

1. Total special education enrollment reached 175,827 pupils in 1972-73--125,768 in public elementary schools and 50,059 in secondary schools.

2. Total special enrollment increased to 214,110 in 1973-74--151,232 in public elementary schools and 62,878 in secondary schools.

3. The number of special education teachers in 1972-73 was 8,119, 4,956 at the elementary level and 3,163 at the secondary level.

4. In 1972-73, 81 per cent of special education teachers worked with pupils in five categories: mentally retarded educable (44 per cent), speech correction (13 per cent), trainable (11 per cent), brain injured (7 per cent) and socially and emotionally disturbed (6 per cent).

5. By school officials estimates, the number of special education teachers reached 10,342 in 1973-74, 6,288 elementary and 4,054 secondary.

6. The prevalence of special education pupils in the public schools population increased from 10.21 per cent in 1972-73 to 12.56 per cent in 1973-74 in elementary schools and from 4.34 per cent to 5.41 per cent in secondary schools (Table 5).

7. Application of the average prevalence rates for special education categories to projected public school enrollment, 1974-75 to 1982-83, resulted in a projection of a drop from 132,102 special education elementary pupils in 1974-75 to 103,104 in 1982-83, a decline of 28,898; and a drop of secondary pupils from 55,252 to 44,956, a decline of 10,296 (Tables 6 and 7).

8. The average number of special education pupils, 1972-73 and 1973-74, per teacher was 23.7 for elementary and 19.6 for secondary, including itinerant instruction (Table 8).

9. Total elementary special education teachers reached 6,288 in 1973-74 and is projected to drop to 4,223 in 1982-83 (Table 9).

10. Total secondary special education teachers reached 4,054 in 1973-74 and is projected to decline to 2,872 in 1982-83 (Table 10).

11. The total of elementary and secondary special education teachers was 10,342 in 1973-74 and is projected to decline to 7,095 in 1982-83.

12. Hiring demand increased from 853 in 1971-72 to 1,365 in 1972-73, a 60 per cent increase, but remained the same for 1973-74 (Table 11).

13. Average percentage of total hiring demand, 1971-74, for the largest category, mentally retarded educable, was 33.7 per cent compared with an average staff proportion of 40.3 per cent, 1973-74, a drop of 6.6 per cent (Tables 3 and 4). Hiring beyond the average staff rate occurred in three categories: socially and emotionally disturbed, speech correction and brain damaged.

14. Of 142 special education graduates at Slippery Rock State College in 1973 69.7 per cent were employed by public schools compared to a statewide rate of 67.8 per cent 1972-73 and 63 per cent 1973-74.

Demand Characteristics of Special Education Teachers

1. Proportion of women in special education in 1972-73 was 69.7 per cent compared with 58.1 per cent in regular teaching, which could increase the average withdrawal rate for special education teachers by 0.43 per cent above that for all teachers.

2. Women in special education had an average of 4.61 years of college compared with 4.39 for women in regular teaching, and men had 4.95 years of college compared with 5.04 years for those in the general operation.

3. Women in special education had average years of service of 7.46 compared with 6.87 for those in regular teaching, and men 6.97 years compared with 9.62 years.

4. Between 1973-83, about 13 per cent of special education teachers may be expected to retire, one per cent more than for regular teachers.

5. About 90 per cent of the retirements, 1973-83, will be from these categories: mentally retarded educable, trainable, physically handicapped and speech correction.

6. Special education personnel reported 873 certified in speech correction and 5,251 in special education, a total of 6,124. About 1,668 of these reported less than full certification.

7. About 2,000 teachers in special education in 1972-73 were not included among those certificated and teaching.

8. In 32 years, 1935 to 1967, 781 teachers were certified as special education teachers.

9. In seven years, 1967-73 inclusive, 14,362 teachers were granted certification in special education.

10. In three years, 1971-73 inclusive, 10,075 or 64.6 per cent of all special education teachers were issued certificates.

11. The total supply of certificated special education teachers is estimated as 13,459 as of February 1974.

12. It is estimated that 3,117 certificated special education teachers are not presently teaching in the public schools and constitute a potential source of returnees to special education teaching.

13. Too many teachers have specialization certification for the mentally retarded educable category compared with the demand: 5,702 more than teaching positions (Table 19).

14. Not enough teachers have certification to teach the gifted (Table 19).

15. Not enough teachers have certification to teach the trainable (Table 19).

Special Education Teacher Supply

1. Teacher-preparing institutions in the Commonwealth increased their production of graduates in special education from 967 in 1970 to 2,159 in 1974.

2. Of the 7,719 graduates produced, 1970-74, equivalent to about 75 per cent of special education teachers employed in the Commonwealth in 1973-74, about 47 per cent specialized in two areas, speech and mentally retarded educable.

3. Among these 7,719 special education graduates were only eight for the brain injured, only 31 for the physically handicapped (secondary) and only four for the gifted (Table 20).

4. The classes of 1975-77 include 8,315 students who are preparing for special education teaching, an increase over the prior three classes of 47 per cent (Table 21).

5. The annual output of special education teachers is projected to be 2,856 in 1976-77 and to drop to 2,468 in 1982-83. These projections would, of course, not be reached if students and education planners get the message of oversupply.

Projected Special Education Teacher Demand

1. Growth in demand for special education teachers, paralleling the trend in school population, showed a negative trend, reducing the number needed for replacement beginning in 1978-79 and continuing through 1982-83.

2. Demand for special education teachers caused by withdrawal from teaching, using all variables (Table 22) was estimated at .08135.

3. Actual hiring demand for special education teachers in 1972-73 and 1973-74 was 1,365 teachers which is about half of the anticipated and projected college graduate supply.

4. The total staff of special education teachers in the public schools reached 10,342 in 1973-74 and is projected to drop to 7,095 in 1982-83.

5. The number of teachers needed to satisfy hiring demand is projected to drop from 1,365 in 1973-74 to 333 in 1982-83 (Table 24).

Matching of Special Education Teacher Supply and Hiring Demand

1. Hiring demand (actual need) was 67.9 per cent of special education teacher supply in 1972-73.

2. Hiring demand is projected to be 49.8 per cent of supply, 1974-75, and to drop each year to 13.5 per cent of supply in 1982-83.

3. The oversupply of special education teachers is projected to increase from 1,371 in 1974-75 and to 2,261 in 1979-80, and then decline to 2,135 in 1982-83.

4. Out-of-state demand for Pennsylvania special education teachers is projected to increase from 336 in 1974-75 to a maximum of 351 in 1976-77, and then decline to 303 in 1982-83.

5. While there are more than 3,000 potential returnees to special education, the projection of returnees shows no significant impact on the special education teacher supply (Table 25).

6. Changes in state regulations and a greater movement toward "mainstreaming" could radically alter the foregoing projections.

7. The projection of special education teacher hiring demand by categories (Table 26) makes it possible to compare total staffing demand (Table 9 and Table 10) with annual need.

SOME IMPLICATIONS OF STUDY

The changes in special education following the 1971 PARC decision produced so much rapid growth in the number of special education teachers needed that historical statistics now have little predictive value. The two years of base data used in this study are not fully adequate for the most accurate predictions regarding demand for special education teachers.

This study should be updated as soon as possible to provide for prompt adjustments in the demand projections. Periodic updates should then be made until trends are well documented over time.

Appendix A

Resident Live Births in Pennsylvania, 1916-73, and Projections, 1974-78

Year	Live Births	Annual Change	Year	Live Births	Annual Change
1916	217,449		1948	227,227	-21,286
1917	222,505	4,056	1949	224,581	- 2,646
1918	220,170	- 2,335	1950	221,635	- 2,946
1919	207,685	-12,485	1951	235,074	13,439
1920	220,462	12,777	1952	239,964	4,890
1921	229,452	8,990	1953	239,206	- 758
1922	214,348	-15,104	1954	245,521	6,315
1923	217,235	2,887	1955	242,591	- 2,930
1924	223,103	5,868	1956	248,019	5,428
1925	215,120	- 7,983	1957	254,997	6,978
1926	207,696	- 7,424	1958	249,810	- 5,187
1927	210,001	2,305	1959	246,615	- 3,195
1928	200,769	- 9,232	1960	241,099[1]	- 5,516
1929	189,524	-11,245	1961	240,172[2]	- 1,927
1930	189,458	66	1962	226,393[2]	-13,779
1931	178,714	-10,744	1963	221,537[3]	- 4,856
1932	168,534	-10,180	1964	218,515	1,022
1933	157,046	-13,488	1965	204,105	4,410
1934	160,238	3,192	1966	195,869	8,236
1935	161,166	928	1967	188,706	- 7,163
1936	159,393	- 1,773	1968	185,729	- 2,977
1937	161,133	1,740	1969	185,046	- 683
1938	165,708	4,675	1970	192,154	7,108
1939	160,774	- 4,934	1971	180,939	-11,215
1940	165,456	4,682	1972	163,110	-17,829
1941	174,193	8,737	1973	153,272	- 9,838
1942	197,177	22,984	Projection		
1943	199,366	2,189	1974	146,700	- 6,566
1944	178,370	-20,996	1975	144,900	- 1,806
1945	173,799	- 4,581	1976	143,400	- 1,500
1946	218,376	44,577	1977	142,700	- 700
1947	248,513	30,137	1978	141,900	- 800

[1] The Enrollment Picture to 1980, Research Studies and Reports Series, No. 10, Department of Public Instruction, 1962, p. 1: Data Source for 1916-60.

[2] Projections to 1979-80, Bureau of Educational Statistics, Pennsylvania Department of Education, 1970, p. 2.

[3] Projections to 1983-84, Division of Educational Statistics, Pennsylvania Department of Education, 1974, p. 2: Data Source for 1963-78.

(From 1916 to 1972, 57 years, there were 32 annual decreases and 25 annual increases in births in Pennsylvania. The lowest number of births was in 1933 (157,046) and the highest in 1957 (254,997). From 1958 through 1973, with the exception of 1970, the number of births has declined each year. With annual changes in births being cumulative through the twelve grades, the decrease of births of 17,829 in 1972, for example, will result cumulatively in a drop in public school enrollment of 203,948 about 1985.)

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